

<b>week 68</b>	<b>a scientist</b>
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**Scientists also help us to find out interesting facts about the earth – they also do experiments to help people with different things ... maybe growing food ... Watering systems for the food we grow ... and ways to stay get rid of germs so that we stay healthy!**

### **Games:**

*(Sometimes experiments go wrong and you need to keep out of the way of the dangerous stuff left behind!)*

#### 1. **Team:** Minefield

Place objects (bad experiment results!) into the playing space (minefield). Have the Cubs choose partners. One partner is blindfolded at one end of the playing area. The non-blindfolded partners stand at the opposite end of the field and try to talk their partners through the minefield without running into any of the obstacles.

*(Scientists have discovered and invented many wonderful things like Isaac Newton - he discovered gravity. Let us see if we can catch the apples before they hit the ground.)*

#### 2. **Active:** The Gravity Game

Everyone gets a number. At the same time as calling out a number, the balls(s) get thrown up in the air and the Cub or Cubs whose number(s) is called, must catch the ball before it hits the ground.

*(If you want to be a scientist, you need to be able to follow instructions to the last detail otherwise you never know what may go wrong ...)*

#### 3. **Quiet game:** Follow instructions

##### **Some ideas for the younger Cubs:**

<http://www.makinglearningfun.com/themepages/FollowingDirectionsDirectory.html>

##### **For the older Cubs:**

Write up the following instructions (or similar) and give each Cub a copy:

##### **DIRECTIONS QUIZ:**

Directions: Read through all the numbered steps below before you begin. Read the directions carefully and do exactly as they say:

1. Use the back of this paper to complete steps 2 to 10.
2. Write your first name in the middle of the paper.
3. Draw a circle above your name.
4. Write your last name in the bottom left hand corner of the paper.
5. Draw a box around your last name.
6. Draw a picture of a fish with two fins underneath your name.
7. Raise your hand. When Akela points at you say "I am on number 7".
8. Draw a heart in the circle you drew above your first name.
9. Stamp your feet three times.
10. Do not do steps 1 to 9. Put your pencil down quietly and wait for the others to finish.

*(Scientists must be very clever people. Let's see how clever we can be ...)*

4. **Team:** Genius Balloon Race

Divide the Pack into even teams. Set up a goal at the other side of the room. Line up teams opposite the goal. Give the first person in line a balloon. Tell them that they must go down to the goal and back carrying the balloon, give it to the person next in line, who does the same thing, on to the last player. The first team to finish with all the players is the winner. No one is allowed to touch the balloon with their hands. They must work out how to carry the balloon to the goal without using their hands at all - not even when they pass it onto the next player.

*(Another great invention/discovery was electricity. Let us see how it works ...)*

5. **Circle:** Clappers

The players sit in a circle. One player starts by clapping and then the person on their left must clap and so on all the way around the circle. The idea of the game is to see how fast you can send the clap (electricity) around the circle. Once this is mastered try reversing the clap each time it reaches a certain player or sending more than one clap around. (Like a Mexican wave ...)

*(Sometimes the experiments that scientists do create weird and wonderful smells ... some may even be dangerous.)*

**Sense Training:**

1. **Smell:** Beware

Games module: page 55

2. **Taste:** Which is which?

Games module: page 63

*(Thomas Edison learnt a lot through carrying out experiments with science – he invented a lot of things ... and he started at a very early age!)*

**Yarn: Thomas Edison**

Six year old Tom Edison wondered what would happen if he set fire to his father's barn. He was so curious about this that he could not stop himself from putting a light to it. The little boy found that his experiment had two results; first, the barn burned to the ground and second, his father put him across his knee and spanked him. It was a painful start to the career of a great inventor.

Thirty years later the young fire-raiser was the best known scientist on earth. He was praised everywhere for hundreds of inventions which included the record-player and the electric light bulb. He was, they said, a wizard, a genius. This sort of talk annoyed Edison, who said, 'Genius is one per cent inspiration and ninety nine per cent perspiration'. By this he meant that a new idea is far less important than the hard sweat needed to make it work. His invention of the electric light bulb seemed to back up what he had said.

When Edison first declared that he was going to produce electric lighting he was told not to waste his time. It was impossible, said one scientist after another; the laws of nature would not allow it. Edison paid no attention but plunged into the problem with his usual energy.

He read every book he could get his hands on which dealt with lighting and from them he took notes and sketches that filled two hundred notebooks. After long study he decided how he would create his new light. He would pass an electric current through a thin thread of metal. The metal, soon heated by the current, would begin to glow, giving the world a kind of light that was different from anything it had ever seen before.

Eagerly Edison took some metals and had them shaved down to fine strands. He placed them in position and passed an electric current through them. They were no good. Some of them gave out a little light but the current quickly burned them out. Edison took more metals and tried them. None worked. But he firmly believed that somewhere there must be a substance whose threads would shed light and yet be strong enough to stand being heated. He tried many thousands of materials from cardboard to human hairs, and at last he found what he was looking for. He discovered that thin strips of bamboo warmed by electricity in a glass bulb gave enough light and were tough enough to make electric lighting available.

An even greater risk now faced Edison. It was one thing to make an electric lamp that worked in the laboratory, but quite another to install lighting in the homes of New York, which Edison quickly agreed to do. For a start, there were no factories making the machinery he needed. He made it himself with the help of workers whom he instructed at all stages of the job. Then the streets of New York had to be dug up to lay the wires leading to the houses. Next he had to invent a meter to tell how much electricity each home used. These and a thousand other problems needed to be solved by the only man who understood them – Thomas Edison.

And solve them he did. After years of effort – years during which he managed only a few hours' sleep a night, and those often spent on the factory floor – his work was finished. A switch was turned, and the city glistened with electric light.

To the end of his life he continued by his hard work to turn out inventions that made men's lives easier or happier. You will use two of them tonight if you go home and switch on the light and the record player. <sup>1</sup>

(Scientists do all sorts of experiments to find out ways to keep the air we breathe clean and to find ways to keep our environment clear of harmful materials ...)

### **Craft/Activity:**

1. **Activity:** Acid Rain (Gold Wolf) and Dirty Air Experiment (Silver Wolf)

Advancement module: page 28

2. **Handcraft:** Invent a Flying Machine



Each Cub needs five craft sticks. Weave the five sticks together as shown. Fly like a frisbee. The plane "explodes" on contact with the ground and other surfaces. Assemble again and see whose can fly the furthest.

Exploding Boomerang:  
<https://za.pinterest.com/pin/95771929553015892/>

### **Singing/Play Acting:**

1. **Singing:** Great Green Globs

Singing module: page 42

*(When Scientists carry out experiments you never know what is going to happen or what you can change into!)*

## 2. **Playacting:** Popcorn

Playacting module: page 8

### **Advancement covered:**

#### **Silver Wolf:**

Awareness Challenge: Our Precious Planet - Demonstrate how clean/dirty the water (or air) is that you use.

#### **Gold Wolf:**

Awareness Challenge: Our Precious Planet - Find out about acid rain and demonstrate how it affects our planet.

### **ADDED EXTRA:**

Here are some experiments which you can try out with your Cubs – some of them are fun – see if you can find somewhere in your programme to do some of them:

Build a Fizz Inflator: <https://sciencebob.com/build-a-fizz-inflator/>

Make Slime: <https://sciencebob.com/make-some-starch-slime-today/>

Quick Sand: <http://www.sciencekids.co.nz/experiments/quicksand.html>

Make Sherbet: <http://www.csiro.au/en/Education/DIY-science/Chemistry/Sherbet>

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<sup>1</sup> Story taken from a compilation of True Stories for Kids